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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,431	10/16/2003	Dale W. Schroeder	10030185-1	8035

7590 10/17/2006

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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LIANG, REGINA

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/687,431

Applicant(s)

SCHROEDER ET AL.

Examiner

XIAO M. WU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Victor et al. (US Patent No. 4,751,380).

As to claim 1, Victor discloses a method for tracking motion across a surface, said method comprising: creating an interference pattern (e.g. the reflection pattern 35 from the surface grid, Fig. 3) by reflecting light from said surface (see Fig. 4, and col. 4, lines 46-62); producing, as a result of a sensor (25, Fig. 3) moving across said surface (col. 4, lines 35-45), at least one signal pattern (Fig. 5) corresponding to a detection of an aspect of said interference pattern; and associating said detected aspect with an assumed value to determine a distance traveled by said sensor (see Fig. 6 and col. 8, lines 20-41).

As to claims 2, 18, Victor discloses using, as said assumed value, a statistical average of anticipated values for said interference pattern. For example, Victor discloses that the vertical grid lines 41 and 43 and the horizontal grid lines 37 and 39 have approximately the same line width W. Each set of the grid lines is made up of parallel uniformly spaced grid lines. The spaces 45 are of uniform size with a width approximately equal to the lines width. Typically, the line width W is about 0.5 mm for both vertical and horizontal grid lines. In other word, the statistical average of anticipated values for the interference patter is  $0.5 \times 0.5 \text{ mm}^2$ .

As to claims 3, 11, 12, 16, 20, Victor discloses the light is coherent light (e.g. laser light is a coherent light, see col. 3, lines 34), and wherein the aspect is a dimension of a single speckle or a dimension between two speckles (see 16, Fig. 1 and 18, Fig. 1a; also see col. 5, lines 3-5).

As to claim 4, Victor discloses the assumed value is an average width or length of said speckles (e.g. the average width or length is 0.5 mm).

As to claims 5, 13, Victor discloses the average width or length of said speckles is statistically derived from a range of anticipated speckle widths or lengths. (See col. 4, lines 64 to col. 5, line 5).

As to claims 6, 14, Victor discloses the sensor is incorporated into a computer navigational device (Fig. 5).

As to claims 7-9, Victor discloses linking a plurality of sensors (e.g. A, B, C D, E, F, G, Fig. 3 and 5), wherein each sensor produces a signal pattern corresponding to a detection of an aspect of said interference pattern; and comparing said signals of said linked sensors to determine a direction traveled by said computer navigational device. (See Fig. 5 and col. 7, lines 15-50).

As to claim 10, Victor discloses assuming an aspect of said interference pattern is a constant value (e.g. the space size is  $0.5 \times 0.5 \text{ mm}^2$ ).

As to claim 15, Victor discloses a device to input navigational information into a computer, said device comprising: a source of electromagnetic radiation (e.g. light source 15) producing an interference pattern (35, Fig. 4); and an arrangement of sensors (25), wherein each of said sensors produces a signal pattern (see 3), said sensors (25) producing a plurality of signal patterns such that when at least two of said signal patterns are linked together the resulting signal

can be used to determine a direction of movement of said device (see Fig. 5).

As to claim 17, Victor discloses the arrangement comprises at least three sensors arrayed (e.g. A, B, C, Fig. 3) in a first line and at least three sensors arrayed (A, D, F, Fig. 3) in a second line, wherein said first line and said second line are perpendicular (see Fig. 3).

As to claim 19, Victor discloses the arrangement comprises a plurality of sensors arrayed in an approximate circle (see element 25 as shown in Fig. 3) with at least one sensor (e.g. A, B, C, D, E, F, G, Fig. 3) near the approximate center of said circle.

### ***Response to Arguments***

3. Applicant's arguments filed 7/26/2006 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues that the feature 35 of Victor as shown in Fig. 1 to be a square representing the active area of detector 24 and is certainly not an interference pattern. These arguments are not persuasive because the grid pattern reflecting from the surface is an interference pattern because it includes first and second colors, or black and white so that the sensor can determine the moving direction when the mouse is moved. Applicant further argues that the grid pattern is not a speckle. This argument is not persuasive because the "speckle" is defined as a small mark of contrasting color" and the grid pattern of Victor is a speckle since it is a mark providing a contrasting color. Applicant further argues that Victor does not disclose a coherent light. This argument is not persuasive because Victor clearly discloses that the light source can be a laser which can produce a coherent light.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 4,79,384 is cited to teach an optical mouse device.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571-272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, Supervisor, RICHARD HJERPE, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

x.w.

October 14, 2006



**XIAO M. WU**  
**Supervisory Patent Examiner**  
**Art Unit 2629**